

The apparatus was described in Dr. Smart's previous work. The circuit from the power mains operating the motor is entirely separate and distinct from the circuit working the induction coil. There is no electrical connexion between the motor circuit and the source of the primary current of only 2.4 volts. With this apparatus it is claimed that the operator has under his own guidance the power, independently of the patient, to cause a muscle painlessly to contract and relax, and at every stage to control such contraction and relaxation with the greatest accuracy in time and degree. Dr. Smart also claims that its use has appreciably shortened the treatment of some painful and disabling post-traumatic conditions. The loss of tone which follows on the overstretching, or in other words, strain of a muscle, is particularly slow of repair, but Dr. Smart has found that with his apparatus he can much shorten the period, even if massage has been entirely dispensed with.

A useful and practical chapter is that on the technique of manipulation of a shoulder-joint and its after-treatment. No joint has been the seat of so many imperfect results as this, and no other joint has probably been so useful to the claims of unqualified practitioners. If recent injuries are treated according to the principles here laid down there will be a great reduction in the number of imperfect cures.

#### TESTICULAR GRAFTING

The works on testicular grafting emanating from the pens of SERGE VORONOFF and his collaborators would now fill a shelf of their own in any library, and *Testicular Grafting from Ape to Man*<sup>6</sup> is the sixth work on the subject published in English. It has the distinction of being written in a more scientific spirit than its predecessors, and is virtually a survey and summary of the results obtained during the last twenty years.

The most valuable part of this book is that which deals with the histological examination of simian grafts removed from patients from seven days to four and a half years after implantation. The sections reproduced show that testicular cells survive to a depth of 2 mm. on the side of the graft in contact with the host's tissues. The final statistical summary of 175 cases of simian testicular grafting upon man is less convincing owing to the fact that we possess no certain criterion on which to base a verdict of success or failure. In any case the method of assessment employed by Voronoff is not mentioned in this work.

#### RESEARCHES AT THE BOSE INSTITUTE

*The Transactions of the Bose Research Institute of Calcutta* have hitherto been concerned mainly with studies on the movements of plants. The seventh volume, now published,<sup>7</sup> makes a new departure by including zoological and anthropological subjects, in addition to those relating to plant physiology. Of several papers dealing with the latter subject the most interesting are those describing channels of excitation in the petioles of mimosa. Definite centripetal and centrifugal tracts have been demonstrated, showing that plants possess structures which are functionally analogous to the nerves of the animal organism. There are also valuable papers on the proteolytic enzymes of *Carica papaya* and on the chemical characters of the oils from leguminous pulses. Anthropologists will welcome

<sup>6</sup> *Testicular Grafting from Ape to Man*. By Serge Voronoff and George Alexandrescu. Translated by T. C. Merrill, M.D. London: Williams and Norgate, Ltd. 1933. (Pp. viii + 125; 39 figures. 5s.)

<sup>7</sup> *Transactions of the Bose Research Institute, Calcutta*. Edited by Sir J. C. Bose, M.A., D.Sc., LL.D., F.R.S., C.S.I., C.I.E. A record of research carried on in various branches of science. Vol. vii, 1931-2. London, New York, Toronto: Longmans, Green and Co. 1933. (Pp. 343; 161 figures. 25s. net.)

Mr. P. C. Basu's article on Burmese crania. India offers a unique field for the investigation of biological problems relating to man, but unfortunately among the most primitive races a rapid depopulation is taking place and some races are fast disappearing. Mr. Basu's researches are therefore opportune. The present paper is the first of a series which will deal with the crania of aborigines, and with those of the Mongoloid type and other groups. His article furnishes the detailed measurements and characteristics of thirty-six Burmese crania from an old burial ground. Sir J. C. Bose contributes a single paper on the capture of fish by drugging the streams, a destructive practice which is common to many primitive races in all parts of the world. The author gives a list of the plants used and details of the method of capture. Elaborate experiments are described showing the action of the drugs; these do not appear to be protoplasmic poisons as ordinarily understood, but cause a paralysis of the respiratory movements of the mouth and gills, from which recovery is possible by means of artificial respiration. Mr. G. C. B. Vidyaratna contributes an interesting paper on fish-eating spiders, in which the mode of capture is described and illustrated by photographs.

#### Notes on Books

More than twenty years ago Sir JOHN BLAND-SUTTON wrote an entertaining account of a journey he made in company with Mr. Comyns Berkeley to Victoria Nyanza. Starting from Mombasa, they travelled on the Uganda railway, and explored the "gigantic trench known as the Rift Valley," 6,300 feet above the level of the sea. His book, which has long been out of print, contained also the story of a boat journey up the White Nile and Bahr-el-Gebel as high as Rejaf. Sir John has now been induced to publish a popular account of his observations in the Rift Valley and the country around the head waters of the Nile, under the title *Men and Creatures in Uganda*.<sup>8</sup> In this volume, illustrated by many delightful wood engravings, will be found a description of the Rift Valley, with brief but illuminating sketches of the animal and vegetable marvels of Eastern Equatorial Africa, as they came before the trained eyes of a surgeon-naturalist.

Two little books on chiropody contain a good many hints of practical value in the care of the feet. Mr. E. G. V. RUNITING has profited by a long experience, and offers to his colleagues in *Chiropody Jottings*<sup>9</sup> another instalment of valuable advice, seasoned with reminiscences as well as predictions. Mr. HAYHOW's book, with its more pretentious title of *Feet in Health and Disease*,<sup>10</sup> is of a much less solid character. Its forty-eight pages can hardly pretend to offer any adequate representation of the anatomy and physiology of the foot or the pathology of its diseases. It contains little about corns and callosities, but the ambition of its author seems to be to deal with more deep-seated affections, such as club-foot, which are generally considered to require surgical intervention of a radical kind.

*Praktische Diätetik*,<sup>11</sup> by Geheimrat Hofrat Dr. L. ROEMHELD, is yet another of the long series of books on dietetic therapy which have appeared in the last few years. It purports to be written both for doctors and for patients, and fulfils its functions admirably. It consists of a little more than 200 pages. Different pathological conditions are discussed, and detailed menus, as well as more general directions, are given.

<sup>8</sup> *Men and Creatures in Uganda*. By Sir John Bland-Sutton, Bt. London: Hutchinson and Co. (Publishers) Ltd. 1933. (Pp. 252; 94 woodcuts. 12s. 6d. net.)

<sup>9</sup> *Chiropody Jottings*. By E. G. V. Runiting, F.I.S.Ch. London: Faber and Faber, Ltd. 1932. (Pp. 223; illustrated. 5s. net.)

<sup>10</sup> *Feet in Health and Disease*. By R. R. Hayhow, M.I.S.Ch. London: J. Bale, Sons and Danielsson, Ltd. 1933. (Pp. 48; 8 figures. 2s. 6d. net.)

<sup>11</sup> *Praktische Diätetik*. Von Geheimrat Hofrat Dr. L. Roemheld. Leipzig: Fischers Medizinische Buchhandlung. 1933. (Pp. 216; Geb. M.5.90.)

Dr. M. L. BARKER, who is lecturer in German at the University of Edinburgh, has written a book entitled *Basic German for Science Students*,<sup>12</sup> which will meet the need of many who wish to acquire quickly a working knowledge of this language in order to study German books and periodicals of a scientific nature. The first part will help the student to acquire a good vocabulary, without spending an undue amount of time on the study of grammar and so losing interest. The second part contains a wide range of short scientific extracts in German relating to medicine, chemistry, physics, and other scientific subjects; on the opposite page to each of these is placed an English translation, thus making it possible, without reference to a dictionary, to attain facility in reading such articles at sight. The book is of handy size and is very well arranged. A vocabulary is provided at the end which is not likely to be needed often after the first part of the book has been mastered. Medical practitioners with little time to spare, and yet with a desire to read German articles at first hand, will give this volume a warm welcome.

<sup>12</sup> *Basic German for Science Students*. By M. L. Barker, M.A., Ph.D. Cambridge: W. Heffer and Sons, Ltd. 1933. (Pp. 164. 6s net.)

## Preparations and Appliances

### APPARATUS FOR COLLECTING BLOOD FOR TRANSFUSION

Dr. G. GREGORY KAYNE (assistant medical officer, St. Charles's Hospital, London; clinical assistant, Hospital for Consumption and Diseases of the Chest, Brompton) writes:

The following modification of apparatus for collecting blood for transfusion by the citrate method has been found of much help in my hands, and I venture to publish the details in the hope that it will be tried more extensively. It is usual to employ a piece of rubber tubing to connect the French's needle with the collecting flask, at the bottom of which is the citrate solution (see Fig. 1). Either a long piece is employed, extending nearly to the bottom of the flask—this favours clotting—or a short piece which reaches beyond the mouth of the flask only. The latter method has two disadvantages: (a) the free end of the tubing is apt to become dislodged when the bottle is shaken or rotated during the collection of the

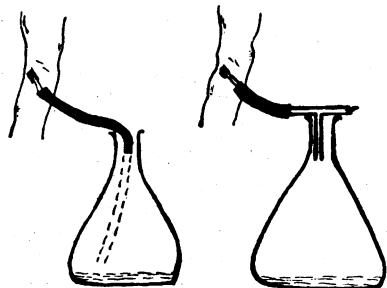


FIG. 1.

FIG. 2.

blood, resulting in loss of blood and a "mess" on the bed or floor; and (b) the free end of the tubing also tends to fall against the sides of the flask, so that the blood runs down the side instead of straight into the citrate solution. The modification I suggest is depicted in Fig. 2. Attached to the end of a short piece of rubber tubing is a T-shaped "glass connexion." The horizontal bar of the latter rests on the mouth of the flask, in which the vertical bar is inserted. The free end of the horizontal bar is plugged with sterile wool.

The advantages of this method are: (i) The flask end of the collecting apparatus cannot be dislodged from the flask in shaking. (ii) The blood runs straight into the citrate solution without touching the side of the flask; thus the maximum amount of unclotted blood is obtained. Moreover, (iii) it is much easier to note the rate of flow of the blood.

In Fig. 3 is shown the collecting apparatus actually employed. The French's needle is connected to the T-shaped "connexion" by a piece of rubber tubing, which is interrupted fairly close to the needle by a very short piece of

The booklet *Simple Instructions for Diabetic Patients*<sup>13</sup> has been drawn up by Dr. DOROTHY HARE for the use of patients in the diabetic clinic of the Royal Free Hospital. It fulfils its function clearly and practically, and will be of great use to the patients under specialist treatment at the hospital, or to practitioners called in during emergencies.

The International Labour Office has published a list of references to the literature of pneumoconiosis,<sup>14</sup> including the morbid results attributable to dusts in general as well as to those caused by silica. It is stated that this publication is intended only as a preliminary step leading towards the drawing up of a full bibliography, which might subsequently also cover the questions raised in the field of health and those relating to the subject of legal compensation for diseases due to dusts.

<sup>13</sup> *Simple Instructions for Diabetic Patients*. By Dorothy C. Hare, M.D., M.R.C.P. With prescription sheet. For the use of patients, nurses, and practitioners. London: H. K. Lewis and Co., Ltd. 1933. (Pp. 24. 1s. net.)

<sup>14</sup> *Pneumoconiosis*. Studies and Report, Series N (Industrial Hygiene) No. 15. International Labour Office. Geneva, 1932. League of Nations. London: P. S. King and Son, Ltd. (Pp. 76. 2s. net.)

glass tubing. The latter need not be more than half an inch long, and indicates immediately whether one is "in the vein" after inserting the needle; it can, however, be omitted if its use is considered to favour clotting. The vertical and

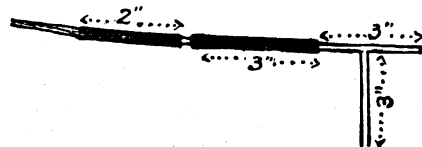


FIG. 3.

horizontal bars of the T-shaped tubing each measure three inches, and five-sixteenths is a convenient diameter.

I think it is useful to boil the whole apparatus as described in citrate solution before use, and keep it in citrate until required.

### NEEDLE-HOLDER FOR SMALL HALF-CIRCLE NEEDLES

Mr. H. W. L. MOLESWORTH (Folkestone) writes:

The well-known habit of most needle-holders of either breaking or bending the finer sizes or of permitting the needles to turn round in the holder led me to design a needle-holder on a new principle, in which the needle is wedged into two narrow slots in a tube by means of a slotted plunger worked by a spring. The needle is firmly carried at the end of a small rod, which does not get in the way of visual control of suturing.

This needle-holder has been made for me by the Genito-Urinary Manufacturing Company, who have helped considerably with the details of design. It is easily taken apart for cleaning and sterilization, and after a thorough testing I have found it a most useful instrument for suturing in awkward situations, such as the common bile duct, the gall-bladder bed, the cardiac end of the stomach, and the depths of the pelvis. With this needle-holder it is an advantage to use needles of half-circle pattern with slightly flattened shanks. Needles of sizes varying from 1/2-inch radius to 1 1/2-inch radius, of intestinal pattern, are firmly held.

